

What is claimed is:

1. A compliant foil thrust bearing, comprising:
 - a thrust bearing plate;
 - a plurality of foils disposed on the surface of said thrust bearing plate;
 - a spring plate operatively engaging the thrust bearing plate;
 - a plurality of springs disposed on the surface of said spring plate; and
 - at least one of said thrust bearing plate and said spring plate including a plurality of decoupled bearing segments defined in part by a plurality of lines of weakness circumaxially dispersed about the at least one of said thrust bearing plate and said spring plate.
2. The compliant foil thrust bearing of claim 1, wherein the lines of weakness are slits.
3. The compliant foil thrust bearing of claim 1, wherein the lines of weakness are slots.
4. The compliant foil thrust bearing of claim 1, wherein the lines of weakness are perforations.
5. The compliant foil thrust bearing of claim 1, wherein the lines of weakness are etched lines.
6. The compliant foil thrust bearing of claim 1, wherein the lines of weakness are grooves.
7. The compliant foil thrust bearing of claim 1, wherein the lines of weakness are provided in the thrust bearing plate.

8. The compliant foil thrust bearing of claim 7, wherein each bearing segment includes at least one foil.
9. The compliant foil thrust bearing of claim 1, wherein the lines of weakness are provided in the spring plate.
10. The compliant foil thrust bearing of claim 9, wherein each bearing segment includes at least one spring.
11. The compliant foil thrust bearing of claim 1, wherein the thrust bearing plate and the spring plate are annular plates, each having an outer diameter and an inner diameter.
12. The compliant foil thrust bearing of claim 11, wherein the lines of weakness extend from the inner diameter.
13. The compliant foil thrust bearing of claim 11, wherein the lines of weakness extend from the outer diameter.
14. The compliant foil thrust bearing of claim 11, wherein the line of weakness extend from both the inner diameter and the outer diameter.
15. The compliant foil thrust bearing of claim 14, wherein the lines of weakness are circumaxially dispersed about the one of said thrust bearing plate and said spring plate in a sequenced pattern.
16. The compliant foil thrust bearing of claim 1, wherein lines of weakness are provided in the thrust bearing plate and the spring plate to define a plurality of decoupled bearing segments in each.

17. A compliant foil thrust bearing, comprising:
 - a thrust bearing plate;
 - a plurality of foils disposed on the surface of said thrust bearing plate;
 - a spring plate operatively engaging the thrust bearing plate; and
 - a plurality of springs disposed on the surface of said spring plate;

wherein each of said thrust bearing plate and said spring plate includes a plurality of decoupled bearing segments defined in part by a plurality of lines of weakness circumaxially dispersed about said thrust bearing plate and said spring plate.
18. The compliant foil thrust bearing of claim 17, wherein the lines of weakness provided in the thrust bearing plate and the spring plate are slits.
19. The compliant foil thrust bearing of claim 17, wherein the lines of weakness provided in the thrust bearing plate and the spring plate are slots.
20. The compliant foil thrust bearing of claim 17, wherein the lines of weakness provided in the thrust bearing plate and the spring plate are perforations.
21. The compliant foil thrust bearing of claim 17, wherein the lines of weakness provided in the thrust bearing plate and the spring plate are etched lines.
22. The compliant foil thrust bearing of claim 17, wherein the lines of weakness provided in the thrust bearing plate and the spring plate are grooves.

23. The compliant foil thrust bearing of claim 17, wherein the thrust bearing plate and the spring plate are annular plates, each having an outer diameter and an inner diameter; and

wherein the lines of weakness provided in the thrust bearing plate and the spring plate extend from at least one of the inner diameter and the outer diameter of the respective thrust bearing plate and spring plate.

24. The compliant foil thrust bearing of claim 23, wherein the lines of weakness provided in the thrust bearing plate and the spring plate extend from both the inner diameter and the outer diameter of the respective thrust bearing plate and spring plate.

25. A compliant foil thrust bearing, comprising:

a thrust bearing having a plurality of top foils disposed on a surface of said thrust bearing plate,

said thrust bearing plate including a plurality of decoupled bearing segments defined in part by a plurality of lines of weakness circumaxially dispersed about the thrust bearing plate.

26. The compliant foil thrust bearing of claim 25, wherein the lines of weakness are slits.

27. The compliant foil thrust bearing of claim 25, wherein the lines of weakness are slots.

28. The compliant foil thrust bearing of claim 25, wherein the lines of weakness are perforations.

29. The compliant foil thrust bearing of claim 25, wherein the lines of weakness are etched lines.

30. The compliant foil thrust bearing of claim 25, wherein the lines of weakness are grooves.